

Amended New claims

1. (original) A rotor for high-speed operation and optimized with respect to centrifugal forces (effective radius and rotation speed) and stress limits of its material, characterized in by at least one rotor segment (7) that is part of a solid disk and that extends from a hub (1) to the work circle (2), the rotor having a discontinuous rim and the rotor segment (7) having at least one closed cutout (6) for reducing stresses encountered during use of the rotor, the geometry of the cutout (6) being basically circular and having a smoothly continuous edge line.

2. (original) A rotor according to claim 1 wherein the segment has at least two closed cutouts such that the material enclosing the cutouts is present in the form of three spokes (5).

3. (currently amended) A rotor according to ~~claims 1 to 2~~ claim 1 wherein the rotor segment (7) has mirror symmetry, and the axis of symmetry goes through the hub (1).

4. (currently amended) A rotor according to ~~any of claims 1 to 3~~ claim 1 wherein the spokes (5) of a rotor segment (7) are provided in a largely parallel fashion.

5. (currently amended) A rotor according to ~~any of claims 1 to 4~~ claim 1 wherein the rotor segment (7) is shaped at its outer end as a segment of a circle.

6. (currently amended) A rotor according to ~~any of claims 1 to 5~~ claim 1, with at least three rotor segments (7).

7. (currently amended) A rotor according to ~~any of claims 1 to 6~~ claim 1 wherein the rotor segments (7) are provided in an evenly distributed manner around the hub (1).

8. (currently amended) A rotor according to ~~any of claims 1 to 7~~ claim 1 wherein the rotor segments (7) are identical to one another.

9. (currently amended) A rotor according to ~~any of claims 1 to 8~~ claim 1 wherein the rotor segments (7) are formed with a stress-optimized radial thickness profile.

10. (currently amended) A rotor according to ~~any of claims 1 to 9~~ claim 1 with an effective radius exceeding 500 mm, especially 1000 mm.

11. (currently amended) A rotor according to ~~any of claims 1 to 10~~ claim 1 with rotor segments (7) are made of metal, ceramic, glass or composite material.

12. (currently amended) A rotor according to ~~any of claims 1 to 11~~ claim 1 suitable for circumferential speeds exceeding 300 m/s, especially exceeding 400 m/s.

13. (currently amended) Application of a rotor according to ~~any of claims 1 to 12~~ claim 1 for incorporation of at least one active element.

14. (original) Application according to claim 13 as a chopper disk for incorporation of at least one graphite crystal for a backscatter spectrometer.